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(54) Title: POPULATION BASED PREDICTION METHODS FOR IMMUNE RESPONSE DETERMINATIONS AND METHODS FOR VERIFYING IMMUNOLOGICAL RESPONSE DATA

nM IC₅₀ For Binding To Purified HLA

Protein	DRB1									
	*101 (DR1)	*0301 (DR3w17)	*0401 (DR4w4)	*0404 (DR4w14)	*0405 (DR4w15)	*0701 (DR7)	*0802 (DR8w2)	*0901 (DR9)	*1101 (DR5w11)	*1201 (DR5w12)
BPM Y217L.70	6.5	6737	33	5.7	168	154	1711	46	2382	80
BPM Y217L.109	8.8	—	30	168	37	68	2192	43	3019	1235
B. lentus 157	1065	16,433	4794	7575	6784	724	>16,333	1484	—	—
B. lentus .160	13	—	142	5542	1348	138	2033	164	5554	—

DRB1		DRB3/4/5			DQ		DQA1/DQA2		Degeneracy
*1302 (DR9w19)	*1501 (DR2w2β1)	*DRB3*0101 (DR52a)	*DRB4*0101 (DR653)	*DRB5*0101 (DR2w2β2)	DQA1*0501/ DQB1*0201 (DQ2)	DQA1*0301/ DQB1*0301 (DQ3.1)	DQA1*0301/ DQB1*0302 (DQ3.2)	n18	
0.69 9.8	21 683	2010 119	31 1071	15,689 1024	670 97	440 2182	2069 80	12 11	
2009 559	865 127	>8434 8157	>6657 8257	— 1726	6157 1296	6009 63	5009 1046	2 7	

(57) Abstract: The present invention provides means to assess immune response profiles of populations. In particular, the present invention provides means to qualitatively assess the immune response of human populations, wherein the immune response directed against any protein of interest is analyzed. The present invention further provides means to rank proteins based on their relative immunogenicity. In further embodiments, the present invention provides means for verifying immunological response data, as well as means for predicting immune responses directed against any antigen/immunogen. In addition, the present invention provides means to create proteins with reduced immunogenicity for use in various applications.

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